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     (FILE 'HOME' ENTERED AT 15:07:18 ON 20 OCT 2010)

     FILE 'MEDLINE, CAPLUS, BIOSIS, SCISEARCH, LIFESCI' ENTERED AT 15:07:51 ON
     20 OCT 2010
L1      2221205 S AGITAT? OR STIR? OR ROTAT? OR ROCK?
L2         6067 S SINGLE(W)CELL(4A)SUSPENSION
L3       230264 S (PLURIPOTENT OR EMBRYONIC OR ES OR EG)(4A)CELL
L4         1070 S L1(P)L3
L5         8193 S EMBRYOID(W)BODY
L6          140 S L4 AND L5
L7            8 S L2 AND L6
L8           32 S L2 AND L4
L9            2 DUP REM L7 (6 DUPLICATES REMOVED)
L10           10 DUP REM L8 (22 DUPLICATES REMOVED)

=> d bib ab 1-2 l9

L9   ANSWER 1 OF 2     MEDLINE on STN                    DUPLICATE 1
AN   2005625071     MEDLINE
DN   PubMed ID: 16189818
TI   Differentiation and lineage selection of mouse embryonic stem
     cells in a stirred bench scale bioreactor with automated
     process control.
AU   Schroeder Magnus; Niebruegge Sylvia; Werner Andreas; Willbold Elmar; Burg
     Monika; Ruediger Manfred; Field Loren J; Lehmann Juergen; Zweigerdt Robert
CS   Institute of Cell Culture Technology, University of Bielefeld, 33501
     Bielefeld, Germany.
SO   Biotechnology and bioengineering, (2005 Dec 30) Vol. 92, No. 7, pp.
     920-33.
     Journal code: 7502021. ISSN: 0006-3592. L-ISSN: 0006-3592.
CY   United States
DT   Journal; Article; (JOURNAL ARTICLE)
LA   English
FS   Priority Journals
EM   200602
ED   Entered STN: 29 Nov 2005
     Last Updated on STN: 3 Feb 2006
     Entered Medline: 3 Feb 2006
AB   It is well established that embryonic stem (ES)
     cells can differentiate into functional cardiomyocytes in vitro.
     ES-derived cardiomyocytes could be used for pharmaceutical and therapeutic
     applications, provided that they can be generated in sufficient quantity
     and with sufficient purity.  To enable large-scale culture of ES
     -derived cells, we have developed a robust and scalable
     bioprocess that allows direct embryoid body (EB)
     formation in a fully controlled, stirred 2 L bioreactor
     following inoculation with a single cell
     suspension of mouse ES cells.  Utilizing a
     pitched-blade-turbine, parameters for optimal cell expansion as well as
     efficient ES cell differentiation were established.
     Optimization of stirring conditions resulted in the generation
     of high-density suspension cultures containing 12.5 x 10(6) cells/mL after
     9 days of differentiation.  Approximately 30%-40% of the EBs formed in
     this process vigorously contracted, indicating robust cardiomyogenic
     induction.  An ES cell clone carrying a recombinant
     DNA molecule comprised of the cardiomyocyte-restricted alpha myosin heavy
     chain (alphaMHC) promoter and a neomycin resistance gene was used to
     establish the utility of this bioprocess to efficiently generate
     ES-derived cardiomyocytes.  The genetically engineered ES
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cells were cultured directly in the stirred bioreactor for 9 days, followed by antibiotic treatment for another 9 days. The protocol resulted in the generation of essentially pure cardiomyocyte cultures, with a total yield of 1.28 x 10(9) cells in a single 2 L bioreactor run. This study thus provides an important step towards the large-scale generation of ES-derived cells for therapeutic and industrial applications.

L9 ANSWER 2 OF 2 MEDLINE on STN DUPLICATE 2
AN 2003500944 MEDLINE
DN PubMed ID: 14578102
TI Generation of confluent cardiomyocyte monolayers derived from embryonic stem cells in suspension: a cell source for new therapies and screening strategies.
AU Zweigerdt R; Burg M; Willbold E; Abts Hf; Ruediger M
CS Cardion AG, Erkrath, Germany.
SO Cytotherapy, (2003) Vol. 5, No. 5, pp. 399-413.
Journal code: 100895309. ISSN: 1465-3249. L-ISSN: 1465-3249.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200401
ED Entered STN: 28 Oct 2003
Last Updated on STN: 30 Jan 2004
Entered Medline: 29 Jan 2004
AB BACKGROUND: Cellular cardiomyoplasty is evolving as a new strategy to treat cardiac diseases. A prerequisite is a reliable source of pure cardiomyocytes, which could also help in the exploitation of recent advances in genomics and drug screening. Our goal was to establish a robust lab-scale process for the generation of embryonic stem (ES)-cell-derived cardiomyocytes in suspension. METHODS: A 71 ES cell clone carrying a construct consisting of the alpha-cardiac myosin heavy chain (alphaMHC) promoter driving the neomycin resistance gene was used for antibiotic-driven cardiomyocyte enrichment. Rotating suspension culture was established to initiate embryoid body (EB) formation. To track growth and differentiation kinetics, cell count and flow cytometry for SSEA-I, E-cadherin (stem-cell marker)and sarcomeric myosin (cardiomyocytes marker) was performed. Oct4 expression was measured via real time (RT)-PCR. RESULTS: Cultures comprising 2.5-8 x 10(6) differentiating FS cells/mL were obtained after 9 days in rotating suspension. Upon G418 addition,vigorous contracting spheres, termed cardiac bodies (CB), developed. These cultures consisted of about 2.1 x 10(5) enriched cardiomyocytes/mL after 6- 10 days of selection. Suspensions comprising 90- 95%viable single cells were generated using an improved dissociation method. Seeding of cardiomyocytes with 7 x 10(4) cell/cm(2) resulted in a homogeneous monolayer of synchronously contracting cells. Myocyte specific immunohistochemistry indicated purity of > 99%. DISCUSSION: We have established a reliable lab-scale protocol to generate cultures of highly enriched cardiomyocytes in suspension. This will facilitate development of larger-scale processes for stem-cell based cardiomyocyte supply. An improved method is provided to derive vital suspensions of cardiomyocytes, which could be utilized for transplantation as well as for drug screening purposes.

=> d au ti so pi 1-10 l10

L10 ANSWER 1 OF 10 MEDLINE on STN DUPLICATE 1

AU Mason Mariah N; Mahoney Melissa J
TI Inhibition of gamma-secretase activity promotes differentiation of embryonic pancreatic precursor cells into functional islet-like clusters in poly(ethylene glycol) hydrogel culture.
SO Tissue engineering. Part A, (2010 Aug) Vol. 16, No. 8, pp. 2593-603. Journal code: 101466659. E-ISSN: 1937-335X. L-ISSN: 1937-3341. Report No.: NLM-PMC2947432 [Available on 08/01/11].

L10 ANSWER 2 OF 10 MEDLINE on STN DUPLICATE 2
AU Schmidt-Ott Kai M
TI ROCK inhibition facilitates tissue reconstitution from embryonic kidney cell suspensions.
SO Kidney international, (2010 Mar) Vol. 77, No. 5, pp. 387-9. Journal code: 0323470. E-ISSN: 1523-1755. L-ISSN: 0085-2538.

L10 ANSWER 3 OF 10 LIFESCI COPYRIGHT 2010 CSA on STN
AU Olmer, R.; Haase, A.; Merkert, S.; Schwanke, K.; Cui, W.; Martin, U.
TI Expansion of undifferentiated human iPS and human ES cells in suspension culture using a largely defined medium
SO Human Gene Therapy [Hum. Gene Ther.], (20091100) vol. 20, no. 11, p. 1394. ISSN: 1043-0342.

L10 ANSWER 4 OF 10 MEDLINE on STN DUPLICATE 3
AU Vereyken E J F; Fluitsma D M; Bolijn M J; Dijkstra C D; Teunissen C E
TI An in vitro model for de- and remyelination using lysophosphatidyl choline in rodent whole brain spheroid cultures.
SO Glia, (2009 Sep) Vol. 57, No. 12, pp. 1326-40. Journal code: 8806785. E-ISSN: 1098-1136. L-ISSN: 0894-1491.

L10 ANSWER 5 OF 10 MEDLINE on STN DUPLICATE 4
AU Li Xiangyun; Krawetz Roman; Liu Shiying; Meng Guoliang; Rancourt Derrick E
TI ROCK inhibitor improves survival of cryopreserved serum/feeder-free single human embryonic stem cells.
SO Human reproduction (Oxford, England), (2009 Mar) Vol. 24, No. 3, pp. 580-9. Electronic Publication: 2008-12-04. Journal code: 8701199. E-ISSN: 1460-2350. L-ISSN: 0268-1161.

L10 ANSWER 6 OF 10 MEDLINE on STN DUPLICATE 5
AU Schroeder Magnus; Niebruegge Sylvia; Werner Andreas; Willbold Elmar; Burg Monika; Ruediger Manfred; Field Loren J; Lehmann Juergen; Zweigerdt Robert
TI Differentiation and lineage selection of mouse embryonic stem cells in a stirred bench scale bioreactor with automated process control.
SO Biotechnology and bioengineering, (2005 Dec 30) Vol. 92, No. 7, pp. 920-33. Journal code: 7502021. ISSN: 0006-3592. L-ISSN: 0006-3592.

L10 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2010 ACS on STN
AU Schroeder, M.; Niebruegge, S.; Werner, A.; Zweigerdt, R.; Burg, M.; Lehmann, J.
TI Optimizing the production of cardiomyocytes from mouse embryonic stem cells in a 2L stirred tank reactor
SO Animal Cell Technology Meets Genomics, Proceedings of the ESACT Meeting, 18th, Granada, Spain, May 11-14, 2003 (2005), Meeting Date 2003, 285-288. Editor(s): Godia, Francesc; Fussenegger, Martin. Publisher: Springer, Dordrecht, Neth.
CODEN: 69HJAV; ISBN: 1-4020-2791-5

L10 ANSWER 8 OF 10 MEDLINE on STN DUPLICATE 6
AU Zweigerdt R; Burg M; Willbold E; Abts Hf; Ruediger M
TI Generation of confluent cardiomyocyte monolayers derived from embryonic

stem cells in suspension: a cell source for new therapies and screening strategies.
SO Cytotherapy, (2003) Vol. 5, No. 5, pp. 399-413.
Journal code: 100895309. ISSN: 1465-3249. L-ISSN: 1465-3249.

L10 ANSWER 9 OF 10 MEDLINE on STN DUPLICATE 7
AU Ihara S; Watanabe M; Nagao E; Shioya N
TI Formation of hair follicles from a single-cell suspension of embryonic rat skin by a two-step procedure in vitro.
SO Cell and tissue research, (1991 Oct) Vol. 266, No. 1, pp. 65-73.
Journal code: 0417625. ISSN: 0302-766X. L-ISSN: 0302-766X.

L10 ANSWER 10 OF 10 MEDLINE on STN DUPLICATE 8
AU Hausman R E; Berggrun D A
TI Prostaglandin binding does not require direct cell-cell contact during chick myogenesis in vitro.
SO Experimental cell research, (1987 Feb) Vol. 168, No. 2, pp. 457-62.
Journal code: 0373226. ISSN: 0014-4827. L-ISSN: 0014-4827.

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